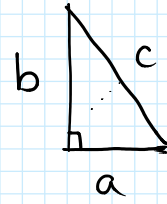


Introducing the Pythagorean Theorem

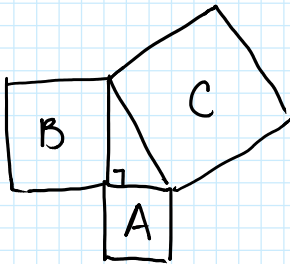
January 07-19 9:53 AM

* For a Right-angle triangle:

- a and b are the 2 shorter sides and they are called "Legs"
- c is the longest side and it is called the hypotenuse



⊛ If we draw 3 squares, one on each triangle side:



⊛ Area of small square plus area of medium square equals area of large square

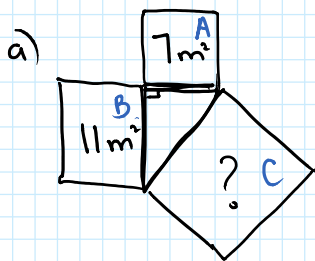
$$A + B = C$$

$$C - A = B$$

$$C - B = A$$

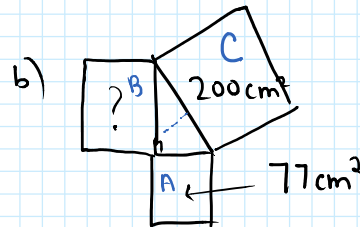
} Have longest side

Ex. Find the missing area:



$$A + B = C$$

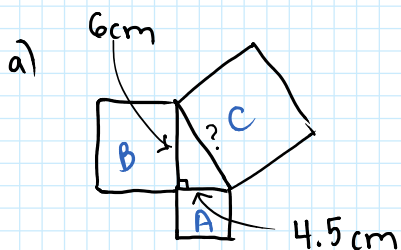
$$7 + 11 = 18m^2$$



$$C - A = B$$

$$200 - 77 = 123 cm^2$$

Ex. Find the missing side length:



$$A: 4.5^2 = 20.25 cm^2$$

$$B: 6^2 = 36 cm^2$$

$$A + B = C$$

Area.

$$20.25 + 36 = 56.25 \text{ cm}^2$$

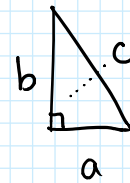
$$c = \sqrt{56.25} = 7.5 \text{ cm}$$

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Introducing the Pythagorean Theorem

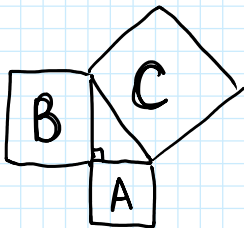
* For a right-angle triangle:

- a and b are the 2 shorter sides and they are called legs



- c is the longest side, the hypotenuse

⊗ If we draw 3 squares, one on each side of the triangle:



⊗ Area of small square ^{plus} area of medium square
EQUALS the area of the Large square

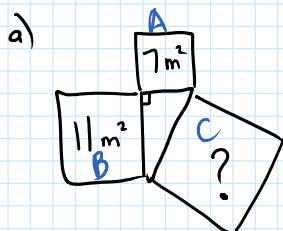
$$A + B = C$$

$$C - A = B$$

$$C - B = A$$

} Know largest side/area

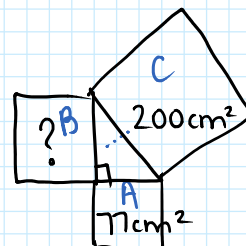
Ex. Find the missing area:



$$A + B = C$$

$$7 + 11 = 18 \text{ m}^2$$

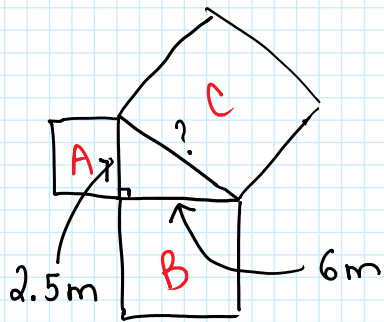
b)



$$C - A = B$$

$$200 - 77 = 123 \text{ cm}^2$$

Ex. Find the missing side length:



$$A: 2.5^2 = 6.25 \text{ m}^2$$

$$B: 6^2 = 36 \text{ m}^2$$

$$A + B = C$$

$$6.25 + 36 = 42.25 \text{ m}^2 \quad \underline{\text{Area}}$$

$$c = \sqrt{42.25} = 6.5 \text{ m}$$